Complete Summary

GUIDELINE TITLE

Diagnosis and treatment of degenerative lumbar spinal stenosis.

BIBLIOGRAPHIC SOURCE(S)

North American Spine Society (NASS). Diagnosis and treatment of degenerative lumbar spinal stenosis. Burr Ridge (IL): North American Spine Society (NASS); 2007 Jan. 262 p. [394 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: North American Spine Society (NASS). Phase III clinical guidelines for multidisciplinary spine care specialists. Spinal stenosis version 1.0. LaGrange (IL): North American Spine Society (NASS); 2002. 91 p.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Degenerative lumbar spinal stenosis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Anesthesiology
Chiropractic
Family Practice
Internal Medicine
Neurological Surgery
Neurology
Nursing
Orthopedic Surgery
Physical Medicine and Rehabilitation
Psychiatry
Psychology
Radiology
Rheumatology

INTENDED USERS

Allied Health Personnel
Health Care Providers
Nurses
Physicians

GUIDELINE OBJECTIVE(S)

- To provide evidence based recommendations to address key clinical questions surrounding the diagnosis and treatment of degenerative lumbar spinal stenosis
- To provide a tool that assists practitioners in improving the quality and efficiency of care delivered to patients with degenerative lumbar spinal stenosis

TARGET POPULATION

- Adults (18 years or older) with a chief complaint of neurogenic claudication without associated spondylolisthesis

  Note: The nature of the pain and associated patient characteristics (e.g., age) should be more typical of a diagnosis of spinal stenosis than herniated disc.

- Adults (18 years or older) diagnosed with stenosis of the lumbar spine

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. History and physical examination
2. Imaging studies
    - Magnetic resonance imaging (MRI), including gadolinium MRI
    - Computed myelography
    - CT scan

3. Electrodiagnostic studies (electromyography/evoked potentials)
4. Application of outcome tools such as the Oswestry Disability Index (ODI), Swiss Spinal Stenosis Questionnaire (SSS)/Zurich Claudication Questionnaire (ZCQ), Maine-Seattle Back Questionnaire (MSBQ), Oxford Claudication Score (OCS), Shuttle Walking Test (SWT), and Exercise Treadmill Test (ETT)

Management/Treatment

1. Pharmacological treatment including intranasal calcitonin, intramuscular calcitonin, methylcobalamin, and intravenous lipoprostaglandin
2. Physical therapy and exercises
3. Spinal manipulation (considered, but insufficient evidence to recommend)
4. Contrast-enhanced, fluoroscopically guided interlaminar epidural steroid injections (multiple and single)
5. Nonfluoroscopically guided interlaminar epidural steroid injections
6. Bracing (Traction, electrical stimulation, and transcutaneous electrical stimulation were considered, but there was insufficient evidence to recommend.)
7. Decompressive surgery with or without fusion
8. X-STOP placement
9. Instrumentation plus posterior fusion

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of diagnostic tests
- Quality of life
- Symptom relief
- Patient satisfaction
- Accuracy of medication delivery
- Postoperative complication rate

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Identification of Clinical Questions

Trained guideline participants were asked to submit a list of clinical questions that the guideline should address. The lists were compiled into a master list, which was then circulated to each member with a request that they independently rank the questions in order of importance for consideration in the guideline. The most highly ranked questions, as determined by the participants, served to focus the guideline.

Identification of Search Terms and Parameters

One of the most crucial elements of evidence analysis to support development of recommendations for appropriate clinical care is the comprehensive literature search. Thorough assessment of the literature is the basis for the review of existing evidence and the formulation of evidence-based recommendations. In order to ensure a thorough literature search, North American Spine Society (NASS) has instituted a Literature Search Protocol (Appendix D in the original guideline document) which has been followed to identify literature for evaluation in guideline development. In keeping with the Literature Search Protocol, work group members have identified appropriate search terms and parameters to direct the literature search.

Specific search strategies, including search terms, parameters and databases searched, are documented in the appendices (Appendix E in the original guideline document).

Completion of the Literature Search

After each work group identified search terms/parameters, the literature search was implemented by a medical/research librarian, consistent with the Literature Search Protocol.

Following these protocols ensures that NASS recommendations (1) are based on a thorough review of relevant literature; (2) are truly based on a uniform, comprehensive search strategy; and (3) represent the current best research evidence available. NASS maintains a search history in EndNote™, for future use or reference.

Review of Search Results/Identification of Literature to Review

Work group members reviewed all abstracts yielded from the literature search and identified the literature they would review in order to address the clinical questions, in accordance with the Literature Search Protocol. Members identified the best research evidence available to answer the targeted clinical questions. That is, if Level I, II and/or III literature is available to answer specific questions, the work group was not required to review Level IV or V studies.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Subjective Review
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence for Primary Research Question[1]

	Types of Studies			
	Therapeutic Studies – Investigating the results of treatment	Prognostic Studies – Investigating the effect of a patient characteristic on the outcome of disease	Diagnostic Studies – Investigating a diagnostic test	Economic and Decision Analyses – Developing an economic or decision model
Level I	• High quality randomized trial with statistically significant difference or no statistically significant difference but narrow confidence intervals • Systematic review[2] of Level I RCTs (and study results were homogenous[3])	• High quality prospective study[4] (all patients were enrolled at the same point in their disease with ≥80% follow-up of enrolled patients) • Systematic review[2] of Level I studies	• Testing of previously developed diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level I studies	• Sensible costs and alternatives; values obtained from many studies; with multiway sensitivity analyses • Systematic review[2] of Level I studies
Level II	• Lesser quality RCT (e.g., <80% follow-up, no blinding, or improper randomization) • Prospective[4] comparative study[5] • Systematic review[2] of Level II studies or Level 1 studies with inconsistent results	• Retrospective[6] study • Untreated controls from an RCT • Lesser quality prospective study (e.g., patients enrolled at different points in their disease or <80% follow-up) • Systematic review[2] of Level II studies	• Development of diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level II studies	• Sensible costs and alternatives; values obtained from limited studies; with multiway sensitivity analyses • Systematic review[2] of Level II studies
Level III	• Case control study[7] • Retrospective[6] comparative study[5] • Systematic review[2] of Level III studies	• Case control study[7]	• Study of nonconsecutive patients; without consistently applied reference "gold" standard • Systematic review[2] of Level III studies	• Analyses based on limited alternatives and costs; and poor estimates • Systematic review[2] of Level III studies

Level IV	Case Series[8]	Case Series	• Case-control study • Poor reference standard	• Analyses with no sensitivity analyses
Level V	Expert Opinion	Expert Opinion	Expert Opinion	Expert Opinion

RCT = randomized controlled trial

1. A complete assessment of quality of individual studies requires critical appraisal of all aspects of the study design.
2. A combination of results from two or more prior studies.
3. Studies provided consistent results.
4. Study was started before the first patient enrolled.
5. Patients treated one way (e.g., cemented hip arthroplasty) compared with a group of patients treated in another way (e.g., uncemented hip arthroplasty) at the same institution.
6. The study was started after the first patient enrolled.
7. Patients identified for the study based on their outcome, called "cases" (e.g., failed total arthroplasty) are compared to those who did not have outcome, called "controls" (e.g., successful total hip arthroplasty).
8. Patients treated one way with no comparison group of patients treated in another way.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Evidence Analysis

Members independently developed evidentiary tables summarizing study conclusions, identifying strengths and weaknesses and assigning levels of evidence. In order to systematically control for potential biases, at least two work group members reviewed each article selected and independently assigned levels of evidence to the literature using the North American Spine Society (NASS) levels of evidence. Any discrepancies in scoring have been addressed by two or more reviewers. The consensus level (the level upon which two thirds of reviewers were in agreement) was then assigned to the article.

As a final step in the evidence analysis process, members identified and documented gaps in the evidence to educate guideline readers about where evidence is lacking and help guide further needed research by North American Spine Society and other societies.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Nominal Group Technique)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Identification of Work Groups

Multidisciplinary teams were assigned to work groups and assigned specific clinical questions to address. Because North American Spine Society (NASS) is comprised of surgical, medical, and interventional specialists, it is imperative to the guideline development process that a cross-section of NASS membership is represented on each group. This also helps to ensure that the potential for inadvertent biases in evaluating the literature and formulating recommendations is minimized.

Formulation of Evidence-Based Recommendations and Incorporation of Expert Consensus

Work groups held face-to-face meetings to discuss the evidence-based answers to the clinical questions, the grades of recommendations, and the incorporation of expert consensus. Expert consensus has been incorporated only where Level I-IV evidence is insufficient and the work group has deemed that a recommendation is warranted. Transparency in the incorporation of consensus is crucial, and all consensus-based recommendations made in this guideline very clearly indicate that Level I-IV evidence is insufficient to support a recommendation and that the recommendation is based only on expert consensus.

Consensus Development Process

Voting on guideline recommendations was conducted using a modification of the nominal group technique in which each work group member independently and anonymously ranked a recommendation on a scale ranging from 1 ("extremely inappropriate") to 9 ("extremely appropriate"). Consensus was obtained when at least 80% of work group members ranked the recommendation as 7, 8, or 9. When the 80% threshold was not attained, up to three rounds of discussion and voting were held to resolve disagreements. If disagreements were not resolved after these rounds, no recommendation was adopted.

After the recommendations were established, work group members developed the guideline content, addressing the literature which supports the recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendation for Summaries or Reviews of Studies

A. Good evidence (Level I Studies with consistent finding) for or against recommending intervention.

B. Fair evidence (Level II or III Studies with consistent findings) for or against recommending intervention.

C. Poor quality evidence (Level IV or V Studies) for or against recommending intervention.

I. Insufficient or conflicting evidence not allowing a recommendation for or against intervention.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Submission of the Draft Guidelines for Review/Comment

Guidelines were submitted to the full Clinical Guidelines Committee, the Clinical Care Council Director and the Advisory Panel for review and comment. The Advisory Panel is comprised of representatives from physical medicine and rehab, pain medicine/management, orthopedic surgery, neurosurgery, anesthesiology, rheumatology, psychology/psychiatry, and family practice. Revisions to recommendations were considered for incorporation only when substantiated by a preponderance of appropriate level evidence.

Submission for Board Approval

After any evidence-based revisions were incorporated, the drafts were prepared for North American Spine Society (NASS) Board review and approval. Edits and revisions to recommendations and any other content were considered for incorporation only when substantiated by a preponderance of appropriate level evidence.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of recommendations (A-C, I) and levels of evidence (I-V) are defined at the end of the Major Recommendations field.

Recommendations for Diagnosis and Treatment of Degenerative Lumbar Spinal Stenosis

Diagnosis and Imaging

What are the most appropriate historical and physical findings consistent with the diagnosis of degenerative lumbar spinal stenosis?

Lumbar spinal stenosis should be considered in older patients presenting with a history of severe lower extremity pain which improves or resolves with sitting and postural abnormalities on physical examination such as a wide-based gait. Physical findings adding to this consideration include an abnormal Romberg test,

thigh pain exacerbated with extension and neuromuscular deficits. Patients whose pain is not made worse with walking have a low likelihood of stenosis.

Grade of Recommendation: I (Insufficient Evidence)

What are the most appropriate diagnostic tests for degenerative lumbar spinal stenosis?

The most appropriate, noninvasive test for imaging degenerative lumbar spinal stenosis is magnetic resonance imaging (MRI).

Grade of Recommendation: B

Computed tomography (CT) myelography is a useful study in patients who have a contraindication to MRI, for whom MRI findings are inconclusive, or in patients for whom there is a poor correlation between symptoms and MRI findings.

Grade of Recommendation: B

CT is a useful noninvasive study in patients who have a contraindication to MRI, for whom MRI findings are inconclusive or for whom there is a poor correlation between symptoms and MRI findings, and in whom CT myelogram is deemed inappropriate.

Grade of Recommendation: B

It is the consensus of this work group that, in isolated lumbar stenosis, electrodiagnostic studies do little to enhance the diagnosis or treatment of lumbar stenosis compared with history, physical examination, and imaging studies. Electrodiagnostic studies are best utilized when there is concern about additional neurologic compromise, such as peripheral polyneuropathy. In addition, Molitor et al. (1993) determined that somatosensory evoked potentials were not helpful in the diagnosis of lumbar stenosis.

Outcomes Measures for Medical/Interventional and Surgical Treatment

What are the appropriate outcome measures for the treatment of spinal stenosis?

The Oswestry Disability Index (ODI) and Swiss Spinal Stenosis Questionnaire (SSS)/Zurich Claudication Questionnaire (ZCQ) outcome tools are appropriate measures for treatment of lumbar spinal stenosis.

Grade of Recommendation: B

The Maine-Seattle Back Questionnaire (MSBQ), Oxford Claudication Score (OCS), Shuttle Walking Test (SWT), and Exercise Treadmill Test (ETT) outcome tools are appropriate measures for treatment of lumbar spinal stenosis.

Grade of Recommendation: I (Insufficient Evidence)

Valid health state measurements that are selected to assess the effectiveness of treatment of lumbar spinal stenosis must be used carefully.

Grade of Recommendation: B

Medical and Interventional Treatment

Do medical/interventional treatments improve outcomes in the treatment of spinal stenosis compared to the natural history of the disease?

A systematic review of the literature yielded no studies to answer this question. An extensive review of all articles cited in the reference section found no direct comparison of active treatment (medical/interventional) to an untreated control group (natural history).

What is the role of pharmacological treatment in the management of spinal stenosis?

There is little evidence that pharmacological treatment, including intranasal calcitonin, intramuscular calcitonin, methylcobalamin, or intravenous lipoprostaglandin E(1), provides long-term benefit in patients with lumbar spinal stenosis.

Grade of Recommendation: B

There is weak evidence that intramuscular calcitonin provides some short-term benefit in patients with moderate lumbar spinal stenosis.

Grade of Recommendation: C

What is the role of physical therapy/exercise in the treatment of spinal stenosis?

A systematic review of the literature yielded insufficient evidence to draw conclusions regarding the effectiveness of physical therapy or exercises as stand-alone treatments for lumbar spinal stenosis.

Grade of Recommendation: I (Insufficient Evidence)

Use of physical therapy and exercise may be beneficial in controlling symptoms of lumbar spinal stenosis with neurogenic claudication in certain subgroups of patients.

Level of Evidence: V (Expert Consensus)

What is the role of manipulation in the treatment of spinal stenosis?

The evidence that spinal manipulation offers benefit in the treatment of lumbar spinal stenosis is insufficient.

Grade of Recommendation: I (Insufficient Evidence)

What is the role of contrast-enhanced, fluoroscopic guidance in the routine performance of epidural steroid injections for the treatment of lumbar spinal stenosis?

Using contrast-enhanced fluoroscopy to guide epidural steroid injections improves the accuracy of medication delivery.

Grade of Recommendation: A

What is the role of epidural steroid injections in the treatment of lumbar spinal stenosis?

Nonfluoroscopically-guided interlaminar epidural steroid injections can result in short term (two to three weeks) symptom relief in patients with neurogenic claudication or radiculopathy. There is, however, conflicting evidence concerning long-term efficacy.

Grade of Recommendation: B

A single radiographically-guided transforaminal epidural steroid injection can produce short term relief in patients with radiculopathy from lumbar spinal stenosis. There is, however, conflicting evidence concerning the long-term efficacy of a single injection.

Grade of Recommendation: B

A multiple injection regimen of radiographically-guided transforaminal epidural steroid injection or caudal injections can produce long-term relief of pain in patients with radiculopathy or neurogenic intermittent claudication (NIC) from lumbar spinal stenosis.

Grade of Recommendation: C

What is the role of ancillary treatments such as bracing, traction, electrical stimulation and transcutaneous electrical stimulation (TENS) in the treatment of lumbar spinal stenosis?

The use of a lumbosacral corset can increase walking distance and decrease pain in patients with lumbar spinal stenosis. There is no evidence that results are sustained once the brace is removed.

Grade of Recommendation: C

A systematic review of the literature yielded insufficient evidence to address the role of traction, electrical stimulation or transcutaneous electrical stimulation in the treatment of lumbar spinal stenosis.

Grade of Recommendation: I (Insufficient Evidence)

What is the long-term result of medical/interventional management of spinal stenosis?

Of patients with mild to moderate lumbar spinal stenosis initially receiving medical/interventional treatment and followed for two to 10 years, approximately 20 to 40% will ultimately require surgical intervention. Of the patients who do not require surgical intervention, 50 to 70% will have improvement in their pain.

Grade of Recommendation: C

Surgical Treatment

Do surgical treatments improve outcomes in the treatment of lumbar spinal stenosis compared to the natural history of the disease?

In patients with severe symptoms of lumbar spinal stenosis, decompressive surgery alone is effective approximately 80% of the time.

Grade of Recommendation: C

In patients with moderate to severe symptoms of lumbar spinal stenosis, surgery is more effective than medical/interventional treatment.

Grade of Recommendation: C

In patients with mild to moderate symptoms of lumbar spinal stenosis, medical/interventional treatment is effective approximately 70% of the time.

Grade of Recommendation: C

In patients with mild to moderate symptoms of lumbar spinal stenosis placement of the X-STOP is more effective than medical/interventional treatment.

Grade of Recommendation: I (Insufficient Evidence)

What is the role of decompression in the treatment of spinal stenosis?

At long-term follow-up (8-10 years), surgical decompression in the treatment of lumbar spinal stenosis is consistently supported when compared to medical/interventional treatments.

Grade of Recommendation: B

Patients aged 75 or greater with lumbar spinal stenosis show the same benefit from lumbar decompression as younger patients aged 65-74.

Grade of Recommendation: C

Diabetic patients, 65 and older, with lumbar spinal stenosis benefit from lumbar decompression.

Grade of Recommendation: C

Does surgical decompression alone improve surgical outcomes in the treatment of spinal stenosis compared to medical/interventional treatment alone or the natural history of the disease?

In patients with severe symptoms of lumbar spinal stenosis, decompressive surgery alone is effective about 80% of the time and medical/interventional treatment alone is effective about 33% of the time.

Grade of Recommendation: C

In patients with moderate to severe symptoms of lumbar spinal stenosis, surgery is more effective than medical/interventional treatment.

Grade of Recommendation: C

In patients with mild to moderate symptoms of lumbar spinal stenosis, medical/interventional treatment is effective up to 70% of the time.

Grade of Recommendation: C

In patients with mild to moderate symptoms of lumbar spinal stenosis, placement of an interspinous process spacing device is more effective than medical/interventional treatment at two-year follow-up.

Grade of Recommendation: I (Insufficient Evidence)

Does the addition of lumbar fusion, with or without instrumentation, to surgical decompression improve surgical outcomes in the treatment of spinal stenosis compared to treatment by decompression alone?

In patients with lumbar spinal stenosis and spondylolisthesis, decompression with fusion results in better outcomes than decompression alone.

Grade of Recommendation: B

The presence of pseudarthrosis on radiographs following lumbar fusion for lumbar spinal stenosis with spondylolisthesis does not affect outcomes at two years.

Grade of Recommendation: B

The presence of pseudarthrosis on radiographs following lumbar fusion for lumbar spinal stenosis with spondylolisthesis negatively affects outcomes at greater than five-year follow-up.

Grade of Recommendation: I (Insufficient Evidence)

The addition of instrumentation to posterior fusion for treatment of spinal stenosis with spondylolisthesis increases the radiographic fusion rate.

Grade of Recommendation: B

Of patients with lumbar spinal stenosis meeting Posner's criteria of instability, decompression with fusion provides better outcomes than decompression alone at greater than two-year follow-up.

Grade of Recommendation: I (Insufficient Evidence)

Of patients with lumbar spinal stenosis without spondylolisthesis or instability, there is no evidence to support the addition of a fusion.

Grade of Recommendation: I (Insufficient Evidence)

What is the long-term result (four+ years) of surgical management of spinal stenosis?

The long-term results of surgical management of spinal stenosis are good or excellent in 50-79% of patients.

Grade of Recommendation: C

Definitions:

Grades of Recommendation for Summaries or Reviews of Studies

A. Good evidence (Level I Studies with consistent finding) for or against recommending intervention.

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C. Poor quality evidence (Level IV or V Studies) for or against recommending intervention.

I. Insufficient or conflicting evidence not allowing a recommendation for or against intervention.

Levels of Evidence for Primary Research Question[1]

	Types of Studies			
	Therapeutic Studies – Investigating the results of treatment	Prognostic Studies – Investigating the effect of a patient characteristic on the outcome of disease	Diagnostic Studies – Investigating a diagnostic test	Economic and Decision Analyses – Developing an economic or decision model

Level I	• High quality randomized trial with statistically significant difference or no statistically significant difference but narrow confidence intervals • Systematic review[2] of Level I RCTs (and study results were homogenous[3])	• High quality prospective study[4] (all patients were enrolled at the same point in their disease with ≥80% follow-up of enrolled patients) • Systematic review[2] of Level I studies	• Testing of previously developed diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level I studies	• Sensible costs and alternatives; values obtained from many studies; with multiway sensitivity analyses • Systematic review[2] of Level I studies
Level II	• Lesser quality RCT (e.g., <80% follow-up, no blinding, or improper randomization) • Prospective[4] comparative study[5] • Systematic review[2] of Level II studies or Level 1 studies with inconsistent results	• Retrospective[6] study • Untreated controls from an RCT • Lesser quality prospective study (e.g., patients enrolled at different points in their disease or <80% follow-up) • Systematic review[2] of Level II studies	• Development of diagnostic criteria on consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level II studies	• Sensible costs and alternatives; values obtained from limited studies; with multiway sensitivity analyses • Systematic review[2] of Level II studies
Level III	• Case control study[7] • Retrospective[6] comparative study[5] • Systematic review[2] of Level III studies	• Case control study[7]	• Study of nonconsecutive patients; without consistently applied reference "gold" standard • Systematic review[2] of Level III studies	• Analyses based on limited alternatives and costs; and poor estimates • Systematic review[2] of Level III studies
Level IV	Case Series[8]	Case Series	• Case-control study • Poor reference standard	• Analyses with no sensitivity analyses

Level V	Expert Opinion	Expert Opinion	Expert Opinion	Expert Opinion

RCT = randomized controlled trial

1. A complete assessment of quality of individual studies requires critical appraisal of all aspects of the study design.
2. A combination of results from two or more prior studies.
3. Studies provided consistent results.
4. Study was started before the first patient enrolled.
5. Patients treated one way (e.g., cemented hip arthroplasty) compared with a group of patients treated in another way (e.g., uncemented hip arthroplasty) at the same institution.
6. The study was started after the first patient enrolled.
7. Patients identified for the study based on their outcome, called "cases" (e.g., failed total arthroplasty) are compared to those who did not have outcome, called "controls" (e.g., successful total hip arthroplasty).
8. Patients treated one way with no comparison group of patients treated in another way.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Accurate diagnosis and effective treatment of degenerative lumbar spinal stenosis

POTENTIAL HARMS

- In one study, overall complication rate was lowest with bilateral laminotomy and highest with laminectomies.
- Diagnostic tests may lead to false positive or false negative results.
- There is a higher complication rate and less successful pain relief with decompressive surgery in elderly diabetic patients compared with nondiabetic patients.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- This guideline does not represent a "standard of care", nor is it intended as a fixed treatment protocol. It is anticipated that there will be patients who will require less or more treatment than the average. It is also acknowledged that

in atypical cases, treatment falling outside this guideline will sometimes be necessary. This guideline should not be seen as prescribing the type, frequency, or duration of intervention. Treatment should be based on the individual patien's need and doctor's professional judgment. This guideline is designed to function as a guideline and should not be used as the sole reason for denial of treatment and services. This guideline is not intended to expand or restrict a health care provider's scope of practice or to supersede applicable ethical standards or provisions of law.

- The clinical guideline should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific procedure or treatment is to be made by the physician and patient in light of all circumstances presented by the patient and the needs and resources particular to the locality or institution.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Development of performance measures in collaboration with the AMA-convened Physician Consortium for Performance Improvement are currently in progress.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 (revised 2007 Jan)

GUIDELINE DEVELOPER(S)

North American Spine Society - Medical Specialty Society

SOURCE(S) OF FUNDING

North American Spine Society (NASS)

GUIDELINE COMMITTEE

North American Spine Society (NASS) Clinical Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: William C. Watters III, MD, Committee Chair; Jamie Baisden, MD, Surgical Treatment Chair; Thomas Gilbert, MD, Diagnosis/Imaging Chair; D. Scott Kreiner, MD, Medical/Interventional Treatment Chair; Daniel Resnick, MD, Natural History Chair; Christopher Bono, MD; Gary Ghiselli, MD; Michael Heggeness, MD, PhD; Daniel Mazanec, MD; Conor O'Neill, MD; Charles Reitman, MD; William O. Shaffer, MD; Jeffrey Summers, MD; John Toton, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All participants involved in guideline development have disclosed potential conflicts of interest to their colleagues and their potential conflicts have been documented for future reference. They will not be published in any guideline, but kept on file for reference, if needed. Participants have been asked to update their disclosures regularly throughout the guideline development process.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: North American Spine Society (NASS). Phase III clinical guidelines for multidisciplinary spine care specialists. Spinal stenosis version 1.0. LaGrange (IL): North American Spine Society (NASS); 2002. 91 p.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the North American Spine Society (NASS) Web site.

Print copies: Available from the North American Spine Society (NASS), 7075 Veterans Boulevard, Burr Ridge, IL 60527; Toll-free: (866) 960-6277.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on July 9, 2003. The information was verified by the guideline developer on November 26, 2003. This summary was updated October 25, 2004. This summary was updated on May 3, 2005 following the withdrawal of Bextra (valdecoxib) from the market and the release of heightened warnings for Celebrex (celecoxib) and other nonselective nonsteroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI on June 16, 2005, following the U.S. Food and Drug Administration advisory on COX-2 selective and non-selective non-steroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI on October 3, 2005, following the U.S. Food and Drug Administration advisory on Paxil (paroxetine). This summary was updated by ECRI on December 12, 2005, following the U.S. Food and Drug Administration advisory on Paroxetine HCL - Paxil and generic paroxetine. This summary was updated by ECRI on May 31, 2006 following the U.S. Food and Drug Administration advisory on Paxil (paroxetine hydrochloride). This summary was updated by ECRI on November 16, 2006, following the FDA advisory on Lamictal (lamotrigine). This summary was updated by ECRI Institute on May 17, 2007 following the U.S. Food and Drug Administration (FDA) advisory on Gadolinium-based contrast agents. This summary was updated by ECRI Institute on June 20, 2007 following the U.S. Food and Drug Administration (FDA) advisory on gadolinium-based contrast agents. This NGC summary was updated by ECRI Institute on November 26, 2007. The updated information was verified by the guideline developer on December 6, 2007.

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DISCLAIMER

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Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx .

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Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 9/15/2008